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mon. Mr. Taylor tells me that he has never seen them alive, and that there are but few specimens in the collection of the Jamaica Institute. For a more detailed account of the economy of the species the reader is referred to Gosse, 'Birds of Jamaica,' p. 263, where the species is referred to as *C. flaviventer*.

123. *Ara tricolor* (Bechst.)?—There seems to be little doubt that a species of *Ara* has occurred on the island. It is the general opinion of some of the most intelligent native hunters that I talked with that a large red Parrot has been shot on the island, and that it still occurs at times. This last seems to me very doubtful. Mr. Taylor writes: "Jamaican examples not seen. All the domesticated birds I have seen appear to have been brought over from Cuba." The reader is further referred to the Gosse, 'Birds of Jamaica,' pp. 260-263, where a most detailed account of the occurrence of a species of *Ara* on the island is given.

(*To be continued.*)

SUMMER BIRDS OF THE CREST OF THE PENNSYLVANIA ALLEGHANIES.

BY JONATHAN DWIGHT, JR.

VARIOUS observers in the Virginias and the Carolinas have already called attention to the distinctly Canadian tinge of the fauna on the higher mountains of the Appalachian system, but until recently there has been little to show that like conditions prevail at much lower altitudes in the State of Pennsylvania. The present paper not only proves this most conclusively, as regards the bird life, but also brings together for the first time in a list those birds that make their summer home in the mountain region of the State. It is the outcome of two brief visits made at the height of the breeding season to some of the more elevated portions of the mountains.

The first occupied a period from June 18 to June 25, 1890, the localities visited being the vicinity of Altoona in Blair County and that of Cresson in Cambria County, at which latter place most of my time was passed. The second occupied from June 10 to 17, 1891, and this time portions of Luzerne, Sullivan, and

Bradford Counties were traversed, my longest stay being on North Mountain where several days were spent.

Previous observers, with few exceptions, do not refer directly to the region under discussion; nor have they always distinguished between summer visitants and migrants, so that they cannot be quoted for comparisons. There are two exceptions,—one an old record of careful observations made early in the forties by the Messrs. Baird* and the other Dr. Warren's recent volumes.†

The Baird lists are briefly annotated, but they illustrate how well such work could be done even fifty years ago. Breeding birds are marked with an asterisk, this often showing that an occasional species of the Canadian avifauna bred near Carlisle, which, it will be observed, lies on the easternmost slopes of the outlying ridges of the mountains. The majority of the birds of these lists are Alleghanian with a goodly sprinkling of the Carolinian types, while it is worthy of notice that, though the birds of my list are chiefly Alleghanian, the Canadian element is strongly marked, and nowhere, not even in the valleys, did I meet with Carolinian forms.

Dr. Warren's book (the 1890 edition) contains the only extensive and accurate information we have had concerning the bird life of the mountain regions. This, however, is scattered through the pages of a large book of a popular character, and the importance of many of the statements is not sufficiently emphasized.

Reference to almost any map will show that the Appalachian Mountain system enters southern and southwestern Pennsylvania in a series of parallel ridges which curve to the northeast and pass out of the State at its northeastern corner. The crest of the

* List of birds found in the vicinity of Carlisle, Cumberland County, Penn., about Lat. 40° 12' N., Lon. 77° 11' W., by Wm. M. and S. F. Baird, *Silliman's Am. Journal*, XLVI, 1844, pp. 261-273; and Catalogue of birds found in the neighborhood of Carlisle, Cumberland Co., Pa., by S. F. Baird, *Lit. Rec. and Journ. Linn. Ass. of Penna. College*, I, 1845, pp. 249-257.

† Report on the Birds of Pennsylvania by B. H. Warren, M. D., 1888, and a later revised edition, 1890.

Since the above was written a paper has been published that bears directly upon the mountain fauna, entitled 'The Summer Birds of Harvey's Lake, Luzerne Co., Penna., with Remarks on the Faunal Position of the Region,' by Witmer Stone. *Proc. Acad. Nat. Sci. Phila.*, 1891, pp. 431-438).

Alleghanies is the principal range, near the centre of the State; its sky line is seldom below 2000 feet elevation, and many points reach 2500 feet. Roughly speaking it may be said that west of this backbone of the mountains is a plateau region sloping away so gradually that much of northern and western Pennsylvania is at an altitude which, when combined with forest, cannot fail to attract birds of the Canadian avifauna. Eastward, on the contrary, this main axis dips sharply into the valley a thousand feet below, from which rises rather abruptly an even-topped range, and this in turn descends into another valley, so that a succession of narrow valleys and parallel ridges characterizes much of the eastern part of the State before the level country is reached. Some of these secondary mountains attain considerable altitudes, 2000 feet and more, but they lack the unbroken continuity of the main divide, and the southern extension of the Canadian fauna and flora is doubtless less marked upon them than upon the Alleghanies proper.

There was a time when the mountains of Pennsylvania were clothed with unbroken forest, the cool recesses of which afforded refuge for many species now found in reduced numbers in the few tracts of timber still untouched by the axe. At the present time the plateau region is in many places covered with farms, which often extend to the very crest line, and there is little suggestive of the top of a mountain range. Bits of the original forest, however, still remain in many places, and on North Mountain (which includes a large section of plateau in or adjacent to the southern part of Sullivan County) is found what is said to be the largest body of timber remaining uncut in the whole State. It certainly is a grand forest, large hemlocks, yellow birches, and maples predominating. There are also groups of white pines, and even a tract of spruces, which I was unable to visit, for roads are by no means the rule in this wilderness, and besides my time was limited.

About Cresson, which is over a hundred miles southwest of North Mountain, there still remain small bodies of timber, chiefly of oak, maple, chestnut, and beech, with here and there a hemlock. On Wopsononock Mountain, a few miles northeast of Cresson, lumbering is still carried on, but at the rate it is being pushed, here as well as on North Mountain, it will not be many years before the mountains will have been entirely denuded, and

with the forests will disappear many of the birds that now dwell in their shade. Cresson and North Mountain are characteristic spots to study the fauna and flora of the plateau region. The elevation of both places is very nearly the same, a little over 2000 feet; but while the latter represents the mountains in their original wildness, the former shows them in a semi-civilized state, after they have been stripped of forest and converted into a country of woodland and pasture. Of the intervening region I can only say that it probably partakes of the nature of both, the forest predominating.

On North Mountain the forest is truly primeval; the hemlock, the yellow birch, and the maple are the characteristic trees, and attain great size. The hemlocks are scattered in considerable numbers through the forest, and tower above it, their huge trunks, often four or five feet in diameter, marking them out as giants among their lesser brethren. The underbrush is often dense and everywhere great logs, covered with green moss, lie mouldering. Here and there you hear clear cold brooks that seem to imitate the song of the Winter Wren that is almost constantly heard along them. The drawling song of the Black-throated Blue Warbler and the sprightly one of the Canadian Warbler is heard on every hand. High up in the hemlocks the drowsy sounds of the Black-throated Green Warbler are heard, and the lively chatter of the Blackburnian Warbler catches the ear. Is not this a bit of northern Maine? You can easily imagine yourself there, although several familiar birds of that region are here missing. There are no White-throated Sparrows, nor Myrtle Warblers, so truly Canadian. The only civilized spot on North Mountain is the clearing of a few acres about a summer hotel on its extensive, almost level top, at an altitude of 2318 feet. Here it was that for the first time in my life I heard the Wood Thrush, the Hermit, and the Olive-backed all singing at the same time. The three species were abundant, and the music at sundown was a concert which for sweetness would be hard to excel.

There is a wild and rocky gorge down the eastern side of North Mountain, a most picturesque spot and one typical of the wilderness. Kitchen's Creek tumbles down something like a thousand feet in its course from the plateau above to the valley below, giving rise to a succession of foaming pools and noisy waterfalls of

great beauty. The trees growing from the precipitous rocks on either hand arch overhead, admitting occasional bursts of sunshine that dance in the clear and sparkling water. Here the tiny Winter Wrens were at home and were found along the brawling brook, as long as it was covered in by the forest shade. When, however, it emerged into the open farming country in the valley below (here many miles broad and of an elevation not exceeding 1000 feet), they and the Juncos and the Magnolia Warblers and all the other Canadian species were left behind in the coolness brought down from the mountain by the rapid stream.

Cresson and the adjacent country lack the wildness and inaccessibility of North Mountain. At Cresson may be found some of the densest of rhododendron swamps, but they are not extensive. Laurel also grows, but it is far more abundant on North Mountain where the rhododendron was not seen. There was an absence of forest-loving birds, although Blackburnian, Black-throated Green, and Black-throated Blue Warblers were to be found in the isolated patches of woods, particularly when they contained cold springs, and then Water Thrushes and Canadian Warblers were often present. There were some wet meadows at Cresson where a few Red-winged Blackbirds and a colony or two of Savanna Sparrows were nesting, and in general it may be stated that the species in greatest abundance were those of the open fields. At Gallitzin, a few miles north of Cresson, the charred stubs in clearings about coke ovens had their effect in soiling the plumage of many of the birds. Still further north along the crest of the mountains is a region of second growth oak, often 'scrubby,' where few birds were found, though the Chestnut-sided Warbler was rather abundant, and beyond this is Wopsononock Mountain, which has been nearly cleared of forest. Where fire has swept its broad top is a considerable tract of open 'barrens' grown up with blueberry bushes, sweet-fern, and brakes. Here I met with the only Mourning Warbler observed, and on its very top, among a few scattered yellow pines, I found a pair of Hermit Thrushes and a few Solitary Vireos.

At all the localities visited the Junco was constantly met with, even down to 1000 feet elevation, but was nowhere abundant. It may be regarded as a species typical of the southward extension of the Canadian avifauna which seems to be largely influenced

in distribution by the forest. The coolness of forest shade seems to be the equivalent of higher altitudes.

As June was well advanced at the times of my visits, it is safe to say that all the birds seen were summer residents. A good many young birds were on the wing, and the woods were full of song, so that it was possible to recognize and secure many species that otherwise would have escaped detection.

Unless otherwise indicated in the following list, it will be understood that the birds were noted both in the vicinity of Cresson and on North Mountain, and without doubt the intervening region will be found to contain practically the same species. This is already proved in part by the reports of observers in the intervening counties of Centre, Clinton, and Lycoming, as published in Dr. Warren's book.

Such species as did not come under my personal observation have been placed in brackets in the following list which I think shows that the mountain regions of Pennsylvania partake far more of the Canadian element than has been generally supposed. Here are some of the most distinctly northern species and many of them were abundant in suitable localities.

<i>Sphyrapicus varius</i> .	<i>Geothlypis philadelphia</i> .
<i>Empidonax flaviventris</i> .	<i>Sylvania canadensis</i> .
<i>Loxia curvirostra minor</i> .	<i>Troglodytes hiemalis</i> .
<i>Junco hyemalis</i> .	<i>Certhia familiaris americana</i> .
<i>Dendroica caerulescens</i> .	<i>Regulus satrapa</i> .
<i>Dendroica maculosa</i> .	<i>Turdus ustulatus swainsonii</i> .
<i>Dendroica blackburniæ</i> .	<i>Turdus aonalaschkæ pallasii</i> .
<i>Seiurus noveboracensis</i> .	

None of the species in the list which now follows have been marked as breeding because, with a few obvious exceptions, *all* the birds mentioned undoubtedly nested within a short distance of the spot where they were encountered.

***Ardea virescens*. GREEN HERON.**—One was seen on two occasions along a swampy brook at Cresson. There is little to tempt this species, or in fact any of the water birds, to the plateau region.

***Ægialitis vocifera*. KILLDEER.**—A single pair was found in an open pasture at Cresson.

***Bonasa umbellus*. RUFFED GROUSE.**—As might be expected this species was far more abundant in the forest on North Mountain than about Cresson. The ruddy tint of the tails was apparent, though but one speci-

men was secured. A brood barely able to fly was met with June 16 on North Mountain.

Zenaidura macroura. MOURNING DOVE.—A few were seen at Cresson, and some at the foot of North Mountain, in the valley eastward.

Buteo lineatus. RED-SHOULDERED HAWK.—A pair had a nest in a rhododendron swamp at Cresson. Its cry was heard several times on North Mountain.

Haliaeetus leucocephalus. BALD EAGLE.—A pair was seen June 18 circling about the rocky ledges of the Blue Ridge Mountains, one of the outlying ridges near Mifflin.

Falco sparverius. SPARROW HAWK.—It was not actually seen on the mountains, but was met with in the valley and doubtless occurs elsewhere. Hawks of all kinds seemed to be rare.

Syrnium nebulosum. BARRED OWL.—Every evening on North Mountain a pair would be heard calling to each other. No others were observed.

[**Nyctea nyctea.** SNOWY OWL.—It may be of interest to record the fact that a specimen of this species was captured one winter a few years ago near the hotel on North Mountain.]

Coccyzus erythrophthalmus. BLACK-BILLED CUCKOO?—While not abundant, this species was occasionally met with, though unfortunately none were secured. The notes heard were all referable to this species. Baird did not record it as breeding at Carlisle, where *Coccyzus americanus* was regularly found. Dr. Warren records both species as summer residents, presumably everywhere throughout the State.

Ceryle alcyon. BELTED KINGFISHER.—A single one was seen flying over at Cresson.

Dryobates villosus. HAIRY WOODPECKER.—Seen but twice and on North Mountain only. Dead trees were not abundant, except in some clearings near Gallitzin, and as Woodpeckers are generally in direct proportion to them, comparatively few were observed.

Dryobates pubescens. DOWNY WOODPECKER.—Detected in both localities; evidently not common.

Sphyrapicus varius. YELLOW-BELLIED WOODPECKER.—Occasionally met with on North Mountain only. Dr. Warren records this species as breeding rarely in Bradford, Lycoming, McKean, and Warren Counties, and perhaps Lackawanna, and it is marked without comment as breeding in Cumberland, Crawford and Sullivan Counties. Baird also marks it as breeding at Carlisle.

[**Ceophlæus pileatus.** PILEATED WOODPECKER.—While this species did not actually come under my observation, I learned of its occasional occurrence on North Mountain. Dr. Warren records it as resident in many counties.]

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—A few birds seen almost daily about Cresson only pointed to the probability of its nesting.

Colaptes auratus. FLICKER.—Fairly abundant, a few being seen daily.

Chordeiles virginianus. NIGHTHAWK.—Not met with on North Mountain, probably because there are no clearings except about the hotel. Several seen at Cresson and vicinity.

Chaetura pelagica. CHIMNEY SWIFT.—Rather common everywhere.

Trochilus colubris. HUMMINGBIRD.—Now and then one would be seen, but they were rare.

Tyrannus tyrannus. KINGBIRD.—Not seen on North Mountain, doubtless on account of the continuous forest, and not common at Cresson. It was more abundant in the valley region.

Myiarchus crinitus. CRESTED FLYCATCHER.—One was seen on Wopsononock Mountain at perhaps 1800 feet elevation, and a few others were noted near North Mountain, in the valley.

Sayornis phœbe. PHŒBE-BIRD.—A few met with wherever there were houses, even near a deserted mill on North Mountain.

Contopus virens. WOOD PEWEE.—It was rare at Cresson, and very few were detected on North Mountain.

Empidonax flaviventris. YELLOW-BELLIED FLYCATCHER.—This species was found on North Mountain only, a few along the cold brooks. Dr. Warren states that many breed in Lycoming County and other mountainous parts of Pennsylvania. Baird did not meet with it in summer.

Empidonax minimus. LEAST FLYCATCHER.—Only detected in the valley, though there seems to be no good reason why it should not be found on the mountains.

Dr. Warren says: "I have been informed that Traill's Flycatcher has been seen in the mountainous parts of the State during the summer." The possibility of error in identifying the small Flycatchers is so great that the actual capture of the bird should be the only authority for stating its occurrence.

Cyanocitta cristata. BLUE JAY.—Rather common; noisy parties of young birds met with frequently.

[*Corvus corax sinuatus*? RAVEN.—It was well known to the people on North Mountain, but it is now very rare. Dr. Warren records it as resident in many counties.]

Corvus americanus. CROW.—There were no Crows on North Mountain and very few about Cresson.

Molothrus ater. COWBIRD.—At Cresson a single bird was noted.

Agelaius phœniceus. RED-WINGED BLACKBIRD.—A few were seen in a wet meadow at Cresson. More common in the valley.

Sturnella magna. MEADOW LARK.—Several seen each day, near Cresson only.

Quiscalus quiscula. PURPLE GRACKLE?—Seen at Cresson only, where a few bred. In the valley near Altoona (1197 feet) they were abundant. A specimen obtained proved to be a young bird, probably *quiscula*, and one male that I saw at a distance of thirty feet was evidently of this species. Still the crest of the Alleghanies must be somewhere near the dividing line between *quiscula* and *æneus*, and more material is desirable to determine which is the prevailing form.

Carpodacus purpureus. PURPLE FINCH. A few individuals were seen about the hotel on North Mountain. Dr. Warren states that this species breeds sparingly, particularly in the northern part of the State. Baird did not find it breeding.

Loxia curvirostra minor. AMERICAN CROSSBILL.—A flock of a dozen was seen on North Mountain June 16, and previously a couple had been heard flying over. Dr. Warren says of the species that it breeds regularly in several counties. Baird does not record it as a summer bird.

Spinus tristis. AMERICAN GOLDFINCH.—Several seen nearly every day, of course not in the deep woods.

Passer domesticus. ENGLISH SPARROW.—Found everywhere, of course, except on North Mountain, and I suppose it must be included in the list.

Poocætes gramineus. GRASS FINCH.—There was not enough open ground on North Mountain to attract this species which was one of the most abundant birds in the vicinity of Cresson and in the valley region.

Ammodramus sandwichensis savanna. SAVANNA SPARROW.—This species, which Dr. Warren mentions as rare and occurring in a few counties, was found at Cresson. A large colony was established in a wet pasture, and a few other individuals were encountered. Baird does not record the species as breeding.

Ammodramus savannarum passerinus. GRASSHOPPER SPARROW.—Several pairs were found in the same meadow as the preceding species, but occupying drier portions of it. In the valley region they abounded, but the wooded character of North Mountain naturally precluded their occurrence there.

Spizella socialis. CHIPPING SPARROW.—Common everywhere, even about the hotel on North Mountain, but not in the deep wood.

Spizella pusilla. FIELD SPARROW.—Fully as abundant as the preceding species, particularly where bushy fields attracted them. A few were in the clearing on North Mountain.

Junco hyemalis. SLATE-COLORED JUNCO.—The birds of the region approach a little more closely true *hyemalis* than they do the form *carolinensis* of the high mountains of North Carolina and Tennessee. The question is fully discussed by me in a recent article (see 'Auk,' VIII, 1891, pp. 290-292). The examination of additional material brings out no new facts. Some specimens are quite indistinguishable from *carolinensis*, but the majority differ little from northern specimens of true *hyemalis*. The birds are distributed all over the more elevated country, nowhere abundant, but a few were met with almost every day, whether in the forest or in the open. I found them sometimes as low as 1000 feet elevation. The males were in full song, thus constantly betraying their presence. Young birds were on the wing during both of my visits. Baird did not record it as breeding near Carlisle. R. M. S. Jackson in 1860, in a book called 'The Mountain,' containing a long list of the birds of this very region, said of

this species that "large numbers nest and permanently occupy the mountain." Dr. Warren states that it is a common resident on all the higher ranges. It has been also recently reported as breeding in the western part of the State, which, as I have shown, is nearly as elevated as the section under discussion.

Melospiza fasciata. SONG SPARROW.—Everywhere abundant except in the deep woods.

Pipilo erythrophthalmus. TOWHEE.—One was seen on North Mountain. At and near Cresson it was fairly abundant.

Habia ludoviciana. ROSE-BREASTED GROSBEAK.—It was only detected on the mountain side near Altoona and again west of Cresson.

Passerina cyanea. INDIGO BUNTING.—A common species at many points, even in the clearing on North Mountain. Baird does not record this bird as breeding at Carlisle.

Piranga erythromelas. SCARLET TANAGER.—Oftener heard than seen, but a common species.

Progne subis. PURPLE MARTIN.—Some nested at Altoona. There is every likelihood of its being found on the mountains.

Petrochelidon lunifrons. CLIFF SWALLOW.—A colony with perhaps fifty nests was noted under the eaves of a barn at Cresson, also another smaller one a few miles away.

Chelidon erythrogaster. BARN SWALLOW.—Common even on North Mountain where several pairs were nesting in the hotel barn.

Tachycineta bicolor. TREE SWALLOW.—Seen only on North Mountain where one or two pairs were nesting in the barn.

Ampelis cedrorum. CEDARBIRD. Rather abundant everywhere.

Vireo olivaceus. RED-EYED VIREO.—Very abundant, less so at Cresson.

Vireo solitarius. SOLITARY VIREO.—Abundant on North Mountain, as many as a dozen males being heard in the course of a day. Also found on Wopsononock Mountain, but not elsewhere. The specimens obtained show an approach toward *alticola*, but the plumbeous tinge of the back is only slightly more extensive than in true *solitarius*. Baird found it breeding at Carlisle.

[The impressions of Dr. Warren's observers that *V. philadelphicus* breeds in the State need confirmation.]

Mniotilta varia. BLACK-AND-WHITE WARBLER.—Seen only occasionally, but everywhere.

Compsothlypis americana. PARULA WARBLER.—Rather common in certain localities on North Mountain, and I thought I caught its song on the mountains near Altoona. Baird and Dr. Warren both record it as breeding.

Dendroica æstiva. YELLOW WARBLER.—A few were seen near Cresson only.

Dendroica cærulescens. BLACK-THROATED BLUE WARBLER.—About Cresson this species was found in the bits of woods grown up with an underbrush of rhododendrons, and was far less abundant than on North

Mountain where fifteen or twenty males would be heard in the course of a day. The young were apparently not yet out of the nest. It is reported as breeding by both Baird and Dr. Warren.

***Dendroica maculosa*. MAGNOLIA WARBLER.**—Another common species, less so, however, than the preceding. Young were on the wing. Dr. Warren says that it breeds in many sections of the mountains. It was not found by Baird in summer.

***Dendroica pensylvanica*. CHESTNUT-SIDED WARBLER.**—Rather common about Cresson and on Wopsononock Mountain, but only detected once on North Mountain where the continuous forest has no attractions for a species so partial to tracts of 'scrub.'

***Dendroica blackburniæ*. BLACKBURNIAN WARBLER.**—It would be hard to say whether this species or *D. cærulescens* was the most abundant. There were times and places where both might almost be said to swarm. I obtained young. Baird and Dr. Warren both record it as breeding; the latter says "sparingly in the mountains."

***Dendroica virens*. BLACK-THROATED GREEN WARBLER.**—Still another most abundant species, frequenting, like *D. blackburniæ*, the hemlocks. Found as low as 1000 feet in several different localities. Young were met with. Baird records it as breeding; also Dr. Warren who says it breeds in the northern tier of counties and in many to the south.

***Dendroica vigorsii*. PINE WARBLER.**—In Bradford County, near Towanda, where the altitude is less than 1000 feet, scattered groups of yellow pines were full of Pine Warblers, but neither this species nor the pines (except a few on Wopsononock Mountain) were met with on the Alleghanies proper.

***Seiurus auroparillus*. OVENBIRD.**—A common species everywhere.

***Seiurus noveboracensis*. WATER-THRUSH.**—Further evidence of the Canadian tinge of the avifauna is afforded by the common occurrence of this species along streams. The young were barely able to fly, and several vacated nests were found in the upturned roots of fallen trees. Dr. Warren states that it breeds in Lycoming, Centre, Clinton, and Clearfield Counties. In Baird's time this species was not distinguished from *Seiurus motacilla*.

***Geothlypis philadelphia*. MOURNING WARBLER.**—A single male was found singing on Wopsononock Mountain where was an extensive well-nigh treeless slope of ferns. No doubt it can be obtained elsewhere in suitable localities, for Dr. Warren states that it breeds in a few secluded mountain districts. Baird does not mark it as breeding.

***Geothlypis trichas*. MARYLAND YELLOW-THROAT.**—Common about Cresson, and one detected in a swampy portion of the clearing on North Mountain.

***Sylvania canadensis*. CANADIAN WARBLER.**—There is little in a name, but this bird does happen to belong to the Canadian fauna, and seems in summer to be out of place in that of Pennsylvania. Still it is certainly abundant in all the localities I visited. Young birds were obtained. Baird records its breeding; and Dr. Warren says that it breeds sparingly in some of the mountains.

Setophaga ruticilla. AMERICAN REDSTART.—This species was not found at all on the mountains, and but few were observed in the valley region, still it seems strange that it should not occur higher up.

Galeoscoptes carolinensis. CATBIRD.—A few seen daily about Cresson; once detected in the clearing on North Mountain.

Harporhynchus rufus. BROWN THRASHER.—Frequently met with about Cresson and one on North Mountain; also in the valley region.

Troglodytes aëdon. HOUSE WREN.—A few observed about Cresson, though more numerous at Gallitzin, three miles away, where they frequented a clearing full of tall dead stubs. None on North Mountain.

Troglodytes hiemalis. WINTER WREN.—Observed on and about North Mountain only, where it was generally distributed throughout the forest, most abundantly in the damper portions. It was especially numerous along Kitchen's Creek. It is a species ever suggestive of cool, secluded forest and moss-covered logs, and its presence always betokens a northern tinge of bird life in the region where it is found. Dr. Warren records it as breeding sparingly in the mountains and northern part of the State. Baird did not find it breeding at Carlisle.

Certhia familiaris americana. BROWN CREEPER.—Occasionally observed on North Mountain, where a family of young birds was encountered, not elsewhere. Dr. Warren reports it breeding in the higher portions of the State.

Sitta carolinensis. WHITE-BREASTED NUTHATCH.—Occasionally observed, but not common.

[Dr. Warren says that *S. canadensis* breeds sparingly in the higher parts of the State, and this is not altogether improbable.]

Parus atricapillus. BLACK-CAPPED CHICKADEE.—Observed not infrequently.

Regulus satrapa. GOLDEN-CROWNED KINGLET.—Met with but once, a pair on North Mountain along Kitchen's Brook. Dr. Warren says of it: "My friend Prof. August Koch of Williamsport informs me he has occasionally met with this species and their young in August and September in Lycoming County. Perhaps future investigators will show that this species breeds sparingly in some of the extensive coniferous forests of our higher mountain ridges." Baird does not record this truly Canadian species as breeding.

Turdus mustelinus. WOOD THRUSH.—An abundant species, found in the woods to the highest points.

Turdus fuscescens. WILSON'S THRUSH.—Tolerably common about Cresson and in the valley at Altoona. Not met with on North Mountain itself, but seen in the valley eastward. Dr. Warren says that it breeds sparingly in the northern and mountainous parts of the Commonwealth, also in Northampton, Lackawanna, Crawford, and Erie Counties. Baird did not find it breeding at Carlisle.

Turdus ustulatus swainsonii. OLIVE-BACKED THRUSH.—Found only on North Mountain, but quite abundant there. I believe there is no record of this species being found in summer south of the Catskill Moun-

tains in New York, although Dr. Warren says it "breeds occasionally, it is said, in our higher mountainous regions."

Turdus aonalaschkæ pallasii. HERMIT THRUSH.—Among some scattered pines at the top of Wopsononock Mountain I found a pair feeding their young. As the abundance of this species can best be determined about sunset, when every male is pouring forth its evening song (and the same remark applies to *T. u. swainsonii*), I cannot say how abundant it is at this point. It was not encountered at Cresson, but in the deep woods of North Mountain it found a congenial home and was very numerous. Often it was possible to distinguish a dozen singing at the same time in the early morning or late evening hours. There was an overhanging cliff commanding a deep, narrow valley, whence at sunset even a greater number might be heard, their notes blending with those of the Olive-backed and Wood Thrushes. I have listened to the songs of all these birds many times, but never before have I heard all these species singing at the same time and had such opportunities for comparing their notes. I am satisfied that the song of the Hermit Thrush is more beautiful than that of the much-renowned Wood Thrush. There is a liquid, ringing sweetness about it, that is only matched in part by the song of the latter. The notes of the Olive-backed Thrush are inferior to both, although delivered with more swing and emphasis than either. The Hermit Thrush is one of the characteristic Canadian birds found in this region. Baird did not meet with it in summer. Dr. Warren says: "This species, it is stated, breeds sparingly in some of our higher mountainous districts."

Merula migratoria. AMERICAN ROBIN.—Abundant everywhere except in the deep woods.

Sialia sialis. BLUEBIRD.—Tolerably common and met with in the clearings on the top of North Mountain.

A DESCRIPTION OF THE ADULT MALE OF *BOTAURUS NEOXENUS* (CORY), WITH ADDITIONAL NOTES ON THE SPECIES.

BY W. E. D. SCOTT.

CAPTAIN J. F. MENGE of Fort Myers, Florida, procured for me during the summer of 1891 three specimens of Cory's Bittern (*Botaurus neoxenus*), and as one of these has the sex deter-